

Claims

- [c1] 1. A hose clamp installation tool comprising:
a housing having a distal end;
a tab disposed on the distal end for engaging a clamp;
an engagement surface disposed adjacent to the tab for engaging the clamp to release the clamp from an open position and allow the clamp to shift to a closed position; and
a sensor that detects the shifting of the clamp.
- [c2] 2. The hose clamp installation tool of claim 1 wherein the sensor is a load cell.
- [c3] 3. The hose clamp installation tool of claim 2 wherein the load cell is disposed under a cover incorporated in the engagement surface.
- [c4] 4. The hose clamp installation tool of claim 3 wherein the cover is adapted to move and transmit force to the load cell when the cover is in contact with the clamp.
- [c5] 5. The hose clamp installation tool of claim 3 wherein the cover has a hardness greater than or equal to the hardness of the engagement surface surrounding the cover.

- [c6] 6. The hose clamp installation tool of claim 1 wherein the sensor is a microphone.
- [c7] 7. The hose clamp installation tool of claim 6 wherein the microphone is disposed in an aperture in the housing.
- [c8] 8. The hose clamp installation tool of claim 7 further comprising a perforated cover disposed over the aperture and near the microphone.
- [c9] 9. A hose clamp installation tool comprising:
a tubular housing having a distal end;
a plurality of tabs extending from the distal end for engaging a clamp;
an engagement surface disposed adjacent to the plurality of tabs for engaging the clamp to release the clamp from an open position and allow the clamp to shift to a closed position; and
a sensor for providing a signal indicative of the shifting of the clamp.
- [c10] 10. The hose clamp installation tool of claim 9 further comprising a power source and a transmitter for sending the signal to a receiver located apart from the hose clamp installation tool.

- [c11] 11. The hose clamp installation tool of claim 10 wherein the power source and the transmitter are connected to the sensor and disposed in the tubular housing.
- [c12] 12. The hose clamp installation tool of claim 9 further comprising an amplifier disposed in the tubular housing for amplifying the signal from the sensor.
- [c13] 13. The hose clamp installation tool of claim 9 wherein the sensor is a load cell.
- [c14] 14. The hose clamp installation tool of claim 9 wherein the sensor is a microphone.
- [c15] 15. A hose clamp installation tool comprising:
a housing having a distal end;
an arm disposed on the distal end, the arm including a tab and an engagement surface disposed adjacent to the tab, the engagement surface being adapted to contact the clamp to release the clamp from an open position and allow the clamp to shift to a closed position; and
a sensor for providing a signal indicative of the shifting of the clamp from the open position to the closed position.
- [c16] 16. The hose clamp installation tool of claim 15 wherein the tab includes at least one beveled side that facilitates engagement of the tab and the clamp.

- [c17] 17. The hose clamp installation tool of claim 16 further comprising a plurality of tabs disposed in a plane that extend in different directions.
- [c18] 18. The hose clamp installation tool of claim 15 further comprising a power source for providing power to the sensor.
- [c19] 19. The hose clamp installation tool of claim 15 further comprising an output device for providing information to an operator based on the signal from the sensor.
- [c20] 20. The hose clamp installation tool of claim 19 wherein the output device provides an audible signal when the installation tool is not located within a predetermined distance from a receiver.